APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/074,033	02/14/2002	Jonathan B. Sadowsky	219.40024X00	5657

7590 03/29/2004	**EXAMINER**
Blakely Sokoloff Taylor & Zafman LLP	TUNG, KEE M
12400 Wilshire Boulevard Seventh Floor	
Los Angeles, CA 90025	

ART UNIT	PAPER NUMBER
2676	9

DATE MAILED: 03/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>06 January 2004</u>.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4,6-13,15-21,23 and 24* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,6-13,15-21,23 and 24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Response to Amendment

1.   Applicant's arguments with respect to claims 1, 11, 20 have been considered but are moot

in view of the new ground(s) of rejection.   Claims 1, 6-8, 11, 15-17 are amended. Claims 5, 14,

22 are cancelled. Claims 1-4, 6-13, 15-21 and 23-24 are pending.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459

(1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

        1.   Determining the scope and contents of the prior art.
        2.   Ascertaining the differences between the prior art and the claims at issue.
        3.   Resolving the level of ordinary skill in the pertinent art.
        4.   Considering objective evidence present in the application indicating obviousness
                or nonobviousness.

3.   Claims 1-4, 6-13, 15-21, 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Chin, et al, U.S. Patent 6,608,625, in view of Crook et al, U.S. Patent Application

Publication 2003/0093623.

4.   Regarding claim 11, representative of claims 1, 2, 20, 24, Chin discloses a computer

graphics system (Figures 1A, 17-21; Column 26, lines 23-24) comprising: a memory to store

image data (Column 41, lines 39-44, 60-66; Column 42, line 55 through Column 44, line 45); a

bin pointer list (Column 44, lines 35-37) to store information regarding a plurality of image

subscenes (Column 3, lines 1-23); and a pointer cache system (Figures 1A, 17, element 108,

Column 38, lines 35-47) to maintain data regarding said plurality of image subscenes, wherein

said pointer cache system comprises a tag array section and a data array section; [further claim

20] making a data request to a pointer cache system to determine if said pointer cache system

contains information relating to said data request; and obtaining information form said pointer

cache system (Column 20, lines 1-14; Column 39, lines 40-47; Figure 18, Column 40, lines 13-

15).

Chin implicitly discloses wherein said pointer cache system further comprises a

decoupling section to create a non-blocking pointer cache system. Crook explicitly teaches

wherein said pointer cache system further comprises a decoupling section to create a non-

blocking pointer cache system ((See Applicant's Remarks, Page 6, 3rd Paragraph, Instant

Application Figure 6) Crook, Figure 5, elements 45, 50; Page 3, Paragraph 42). The motivation

for combining a bin pointer cache system with a decoupling FIFO between the Cache Tags and

the Cache Data is to improve cache performance (Page 1, Paragraph 8-13). Crook is evidence

that at the time of the invention it would have been obvious to one skilled in designing 3D

graphics machines, to combine the benefits of a bin pointer cache system, as Chin discloses, with

a decoupling FIFO to create a non blocking pointer cache system, as Crook teaches, to improve

cache performance.

5.   Regarding claim 3, representative of claim 12, Chin discloses a graphics controller of

claim 1, wherein each cache tag in said cache tag array section corresponds to at least four pieces

of cache data in said cache array section (Figures 13-14, *4 bytes,* Column 27, lines 27-33;

Column 29, lines 3-6).

6.   Regarding claim 4, representative of claim 13, Chin discloses a graphics controller of

claim 2, wherein said cache tag array section receives a data request and determines if said cache

data array contains information related to said data request (Column 13, lines 15-17, 64-66;

Column 20, lines 1-14; Column 27, lines 16-26).

7.   Regarding claim 6, representative of claim 15, Chin discloses a graphics controller of

claim 1, wherein if said cache data array contains information related to said data request then

said data request is placed in said decoupling section (Column 30, lines 18-20, 40-55, 66 through

Column 31, line 3).

8.   Regarding claim 7, representative of claims 16 and 21, Chin discloses a graphics

controller of claim 1, wherein if said cache data array does not contain information related to

said data request then a data request is made for the missing data and the data request is placed in

said decoupling section (Column 30, lines 62-66, *refill control,* Figure 18, Column 40, lines 11-

18).

9.   Regarding claim 8, representative of claims 9, 17-18, 23, Chin discloses a graphics

controller of claim 1, wherein said pointer cache system performs a recovery operation following

an out of memory condition (Column 40, line 18 through Column 41, line 38).

10.   Regarding claim 10, representative of claim 19, Chin discloses a graphics controller of

claim 1, wherein said graphic controller vertically arranges said subscenes (Column 49, lines 18-

22, 63-67).

Response to Arguments

11.   The Applicant asserts that reference Chin discloses a pointer cache system with a

decoupling section to create a non-blocking pointer cache system (Page 6, Paragraph 4).

        The Examiner respectfully points out, however, that in the amended claims, Chin

implicitly discloses these features (Figure 9, Column 30, line 40 through Column 31, line 3).

Given the amended claims 1, 11, 20 are now independent claims incorporating this feature, at the

Examiner discretion, he has found reference Crook who explicitly discloses giving a clearer

presentation of the claimed feature, a decoupling section [FIFO] to create a non-blocking pointer

cache system ((See Applicant's Remarks, Page 6, 3rd Paragraph, Instant Application Figure 6)

Crook, Figure 5, elements 45, 50; Page 3, Paragraph 42).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen E. Quillen whose telephone number is (703) 605-4584. The examiner can normally be reached on Tuesday – Friday, 8:30am – noon and 1:00 - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew C. Bella, can be reached on (703) 308-6829.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Or FAX'd to:

(703) 872-9314 (for Technology Center 2600 only)

Hand delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Sixth

Floor (Receptionist), Arlington, Virginia

Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the receptionist whose telephone number (703) 305-9600 or (703) 305-

3800.

Allen E. Quillen
Patent Examiner
Art Unit 2676

***March 21, 2004
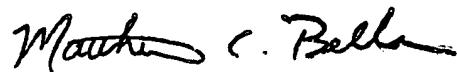
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